

### REMARKS

Claims 1-13, and 16-18 are rejected under 102(e) as being anticipated by Bavykin et al. (US 2003/0096229 A1), now U.S. Patent No. 6,818,398 B2. The Examiner maintains the objection on the grounds that the Applicant's declaration under 37 CFR 1.131 does not overcome the 102(e) reference objection when said reference is now also claiming the embodiment the reference is being relied upon.

Claims 14 and 15 are rejected under 103(a) as being unpatentable over Bavykin et al. (US 2003/0096229 A1) in view of Sheldon et al. (U.S. Patent No. 4,617,261).

The Examiner maintains the objection on the grounds that the Applicant's declaration under 37 CFR 1.131 does not overcome the 102(e) reference objection when said reference is now also claiming the embodiment the reference is being relied upon.

Claims 1-12, 14, 16 and 17 are rejected under 103(a) as being unpatentable over Mirzabekov et al. (U.S. Patent No. 5,981,734) in view of Guillet et al. (WO 99/22020, published May 6, 1999).

Claim 15 is rejected under 103(a) as being unpatentable over Mirzabekov et al. (U.S. Patent No. 5,981,734) in view of Guillet et al. as applied to claims 1-12, 14, 16, and 17 and further in view of Fuller et al. (U.S. Patent No. 5,314,595).

#### Applicant's Instant Priority Claim Obviates Bavykin

Claims 1-13 and 16-18 are rejected under §102(e) as being anticipated by Bavykin et al. (U.S. Patent No. 6,818,398). Claims 14 and 15 are rejected under §103(a) as being unpatentable over Bavykin.

Applicants submit that in light of the Petition to Amend Priority to Bavykin (attached hereto), the aforementioned §102 and §103 rejections are obviated. Withdrawal of said rejections and allowance of the effected claims is hereby solicited.

#### Guillet Teaches Away From Fractionation

Claims 1-12, 14, 16 and 17 are rejected under §103(a) as being unpatentable over Mirzabekov et al (U.S. Patent No 5,981,734) in view of Guillet et al (WO

99/22020). Applicants submit that inasmuch as Guillet cannot work with fractionization, and inasmuch as Mirzabekov requires fractionization, the §103 combination is impermissible.

Guillet's goal is to keep long DNA molecules intact, whilst labeling the polymer along the backbone. Specifically, and as recited on page 3, lines 20-22, Guillet provides "a process of labeling a polymer with functional groups randomly distributed along the polymer backbone chain." And as stated on page 22, lines 4-5, labels appear for every 136, 77 and 48 nucleotides, depending on the labeling process used. Guillet's process is used for PCR chain extensions, and to allow the sequencing of NA of high molecular weight (See Abstract). See also Table 1 (page 28) and Table 2 (page 33) of Guillet where no fractionation of nucleic acid material occurs.

In contrast to Guillet, Mirzabekov teaches procedures that "are compatible with the fragmentation of nucleic acids. Fragmentation is needed to decrease the formation of hairpin structures that interfere with nucleic acid hybridization to short microchip oligonucleotides." (Column 4, Lines 15-18.)

Guillet and Mirzabekov have inapposite goals. Modifying Guillet to break apart its isolated single stranded DNA molecules would destroy Guillet's objectives of creating "nested sets" of labels along a DNA strand (See page 11, lines 18-20). Modifying Mirzabekov to generate long fragments would destroy Mirzabekov's attempts to produce sequencing gel chips of immobilized 6- or 8-mers for possible combination with like sized sequences contained an unknown solution. It is also noteworthy that while Guillet uses free radicals for its labeling process, Mirzabekov does not. "Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." ACS Hospital Systems Inc., v. Montefiore Hospital, 732 F. 2d 1572.

Notwithstanding the foregoing, and to further differentiate the instant protocol from Guillet, Applicants amend independent claim 1 and 9 so as to relegate labeling of fragments to their 5' or 3' ends. Support for this added limitation is found on page 4,

lines 25-26, page 10, lines 12-14, and FIGS 1 and 2.

Given this limitation, and given the fact that Guillet must label *along* a NA fragment, and therefore between the 5' and 3' ends of the fragment, Applicants submit that claims 1 and 9 and dependant claims therefrom are neither anticipated nor suggested by the §103 rejection based on Mirzabekov and Guillet.

In light of the foregoing, Applicants request withdrawal of the Mirzabekov/Guillet rejection and allowance of the subject claims.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mirzabekov et al, in view of Guillet et al and further in view of Fuller et al. Applicants submit that in light of the discussion related to the impermissible combination of Mirzabekov with Guillet, the rejection to claim 15 is not appropriate.

Separately, claims 3 and 11 are amended to correct typographical errors.

An earnest attempt has been made hereby to respond to the March 29, 2005 Official Action. Applicant submits that claims 1-18 are in condition for allowance. If the Examiner feels that a telephonic interview will expedite allowance, he is respectfully urged to contact the undersigned. Allowance of the application is respectfully requested.

Respectfully Solicited,  
**CHERSKOV & FLAYNIK**

BY

  
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